



Taiwan Patent & Trademark [19] [12] published April 11, 2002

[11] Patent Publication No.: 483355

[21] Patent Application No.: 089204512A01

[22] Filing Date: August 31, 2001

[44] Publication Date: April 11, 2002

[54] Title: An Improved Structure of A Solder Bath Means in A Soldering Pot (Continuation 1)

[51] IPC: B23K3/00

[72] Inventor: Yu-Cheng, Tu

[71] Applicant: Yu-Cheng, Tu

Address: No. 28, Lane 760, Chung-Cheng Rd., Chung-Cheng District, Keelung City, Taiwan.

[74] Patent Attorney: Chen-Tien, Cheng

Claims for Taiwan Patent Publication No. 483355

[57] What is claimed is :

1. An improved structure of a solder bath means in a soldering pot, comprising:
a motor (20) placed in a fixed base (21), said motor driving a blade fan (24)
under a rotating shaft (23) by a belt (22);

a diversion channel (30) wherein a fixing component (31) is provided by
extending from each of the two sides and a flow guiding means (80) is installed on a
peripheral wall in one of the two sides, a hole (33) is formed at a suitable position in
the middle for receiving the blade fan under the rotating shaft, and the rotating shaft is
mounted on the diversion channel (30);

a supporting means (40) composed of a supporting shaft (41) and a supporting
member (42), said supporting shaft having a fixed end (411) and a supporting
component (412), and said supporting member being formed with a hole (421) for
allowing the penetration and provision of the supporting component of the supporting
shaft;

a solder bath (10) wherein the supporting member is provided at a suitable
position on an edge of each of the two sides of the bath wall, and heating pipes (11)
are provided at an external side of the solder bath;

characterized in that:

said flow guiding means is formed by a two-layer structure composed of an
inner-layer structure (81) and an outer-layer structure (82), wherein a bottom of said
inner-layer structure is formed with holes (811), a top of each of the two sides of said

inner-layer structure is formed with a bending portion (812) extending and bending toward an interior of the inner-layer structure, and the top of said inner-layer structure between the bending portions is formed with an open portion (813), and said outer-layer structure is formed in a shape of container with an open in the top and is encased outside of said inner-layer structure; and

the supporting component of the supporting shaft of said supporting means and the fixed base used for the motor are connected with a fine adjusting means (70) through a board (71), and the board is actuated to rotate around a shaft center of the supporting component by said fine adjusting means to thereby adjust the angle of inclination of the diversion channel.

2. The improved structure of a solder bath means in a soldering pot as claimed in claim 1, wherein said outer-layer structure is formed with a closed end (821) and an open end (822), and the oxidized waste soldering tin collected in said outer-layer structure is discharged through a conduit externally connected to said open end.

3. The improved structure of a solder bath means in a soldering pot as claimed in claim 1, wherein said fine adjusting means is mainly composed by the board with one end fixed to said supporting component and the other end mounted to the fixed base used for the motor, a screw (72), and an adjustable bolt (73), the top of said screw is detachably provided at a proper location in the bottom of said board such that the direction of the axle center of the screw is oriented toward the underside of said board, and then the adjustable bolt is screwed to a lower portion of the screw and said adjustable bolt is fixed at an adequate position of the solder bath.

4. The improved structure of a solder bath means in a soldering pot as claimed in claim 3, wherein the top of said screw is provided with a connecting means (74), and the top of said connecting means is detachably connected with the board by an axle body (741) and the bottom of said connecting means is fixed with said screw.

5. The improved structure of a solder bath means in a soldering pot as claimed in claim 1, wherein an indication means for indicating the angle of inclination (75) is provided at an adequate position of said board such that the angle of inclination of the diversion channel can be adjusted and learned by said indication means for indicating the angle of inclination.

6. The improved structure of a solder bath means in a soldering pot as claimed in claim 5, wherein said indication means for indicating the angle of inclination is composed of a dial (751) and a needle (752), said dial is provided at a suitable position on said board, an open slot (711) is formed at a suitable position on said board beside the dial, said needle is fixed to said solder bath by an axle body (753) passing through said open slot, and an appropriate moveable margin exists between the axle body of the needle and said open slot.

Brief Description of the Drawings:

Fig. 1 is a perspective diagram of the Parent Application in a combinational view.

Fig. 2 is a perspective diagram of the Parent Application in an exploded view.

Fig. 3 is a perspective diagram of the present invention in a combinational view.

Fig. 4 is a perspective diagram showing the exterior of the flow guiding means in accordance with the present invention.

Fig. 5 is a perspective diagram showing the exterior of the flow guiding means in accordance with the present invention, which is viewed from the other angle.

Fig. 6 is a cross-sectional diagram for schematically showing an embodiment of the present invention when the soldering operation of a circuit board is performed.

Fig. 7 is a perspective diagram of the fine adjusting means in accordance with the present invention in an exploded view.

Fig. 8 is a front view of one side provided with the fine adjusting means in accordance with the present invention.

Fig. 9 is a schematic diagram for showing the adjustment of the fine adjusting means in accordance with the present invention.



FIG. 1

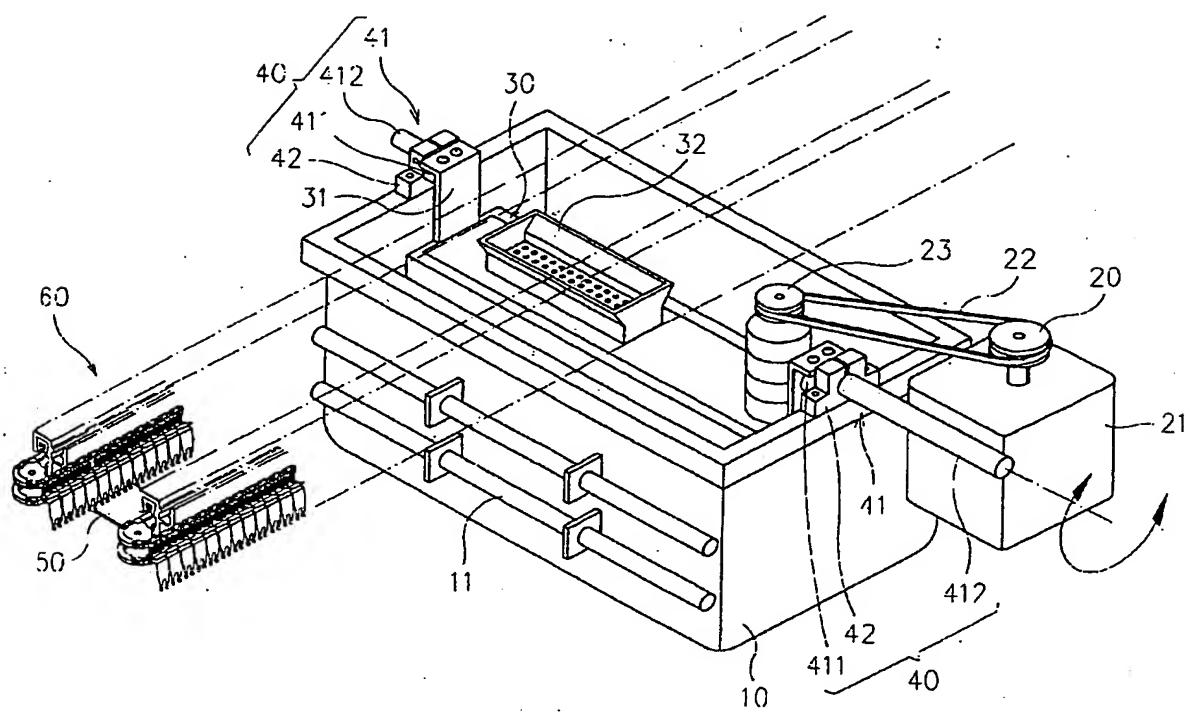


FIG. 2

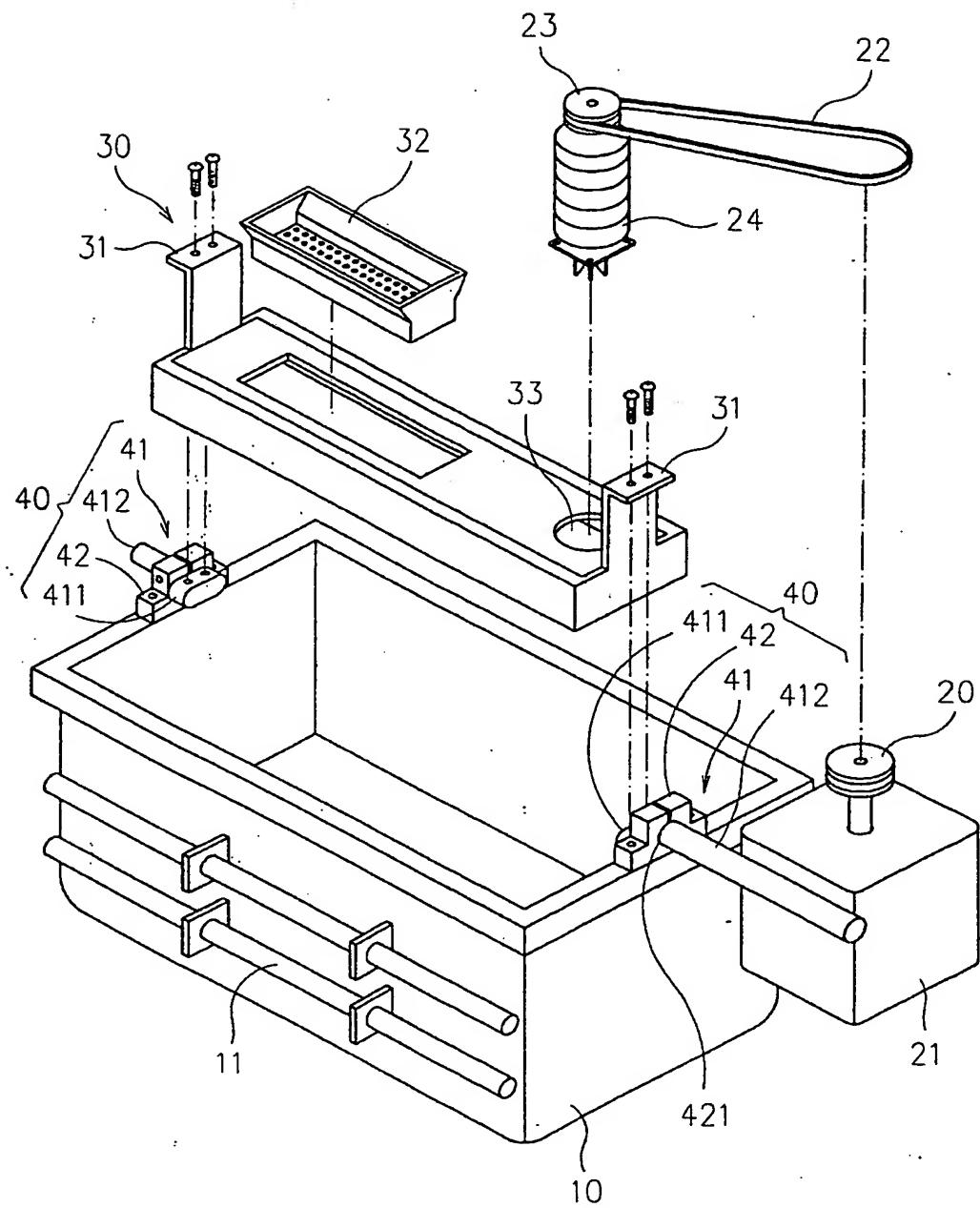
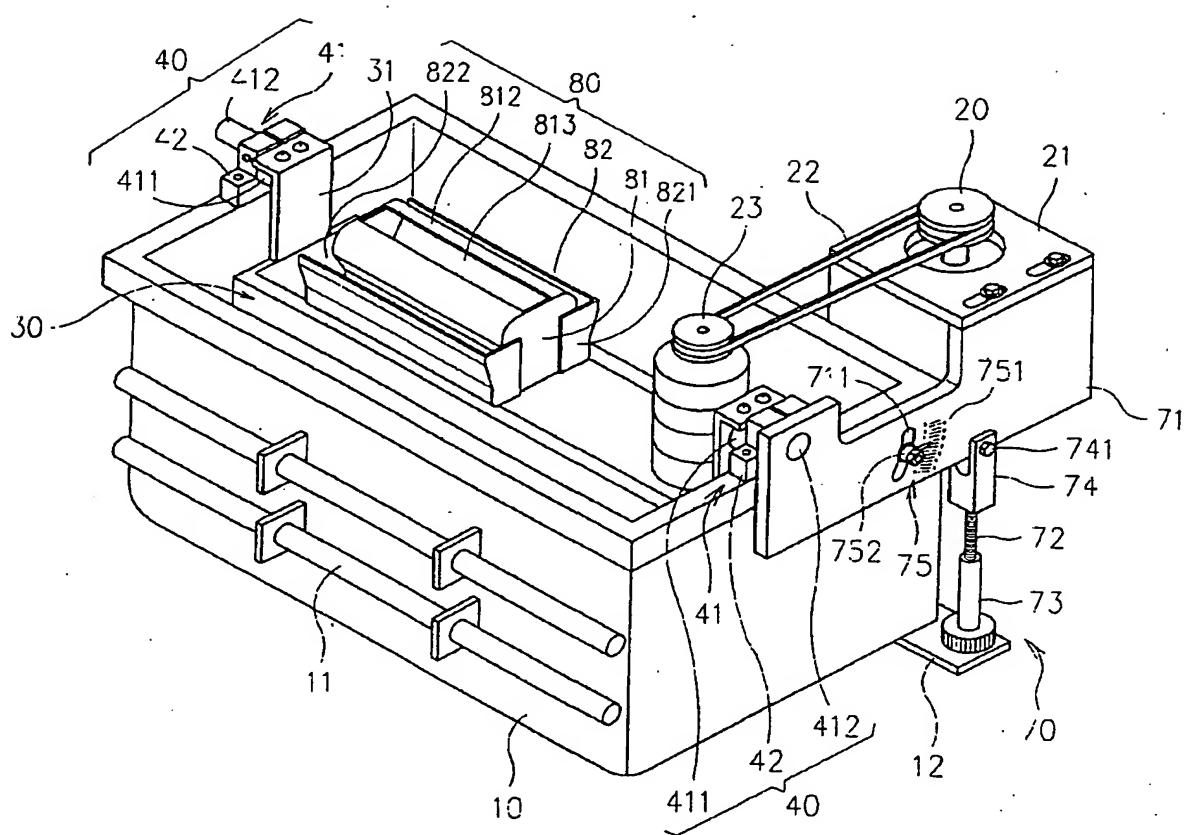


FIG. 3



(b)

FIG. 4

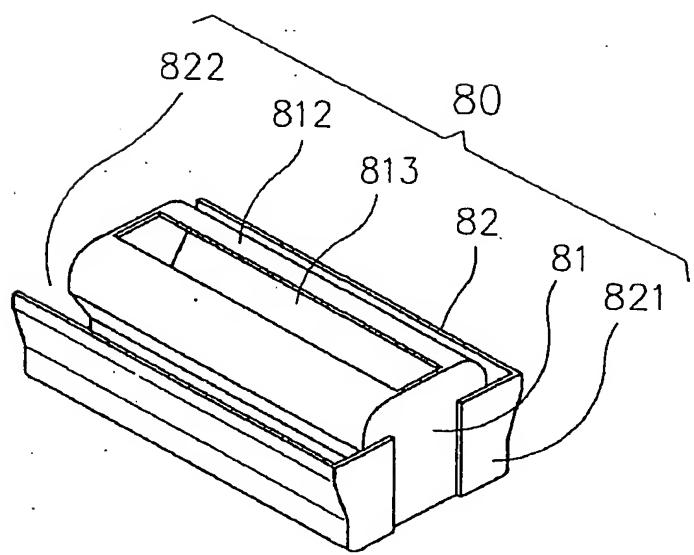


FIG. 5

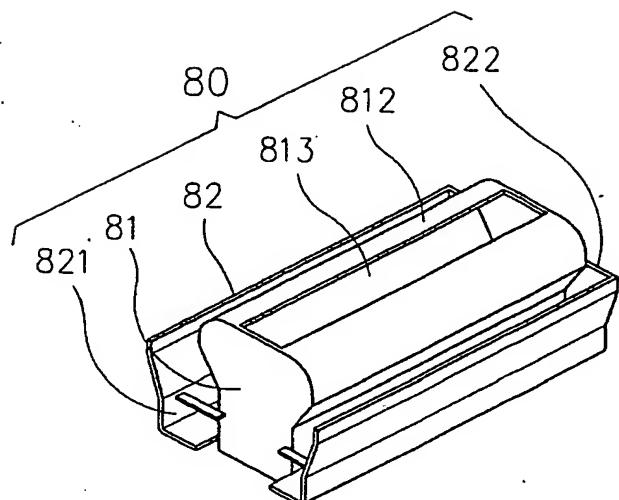


FIG. 6

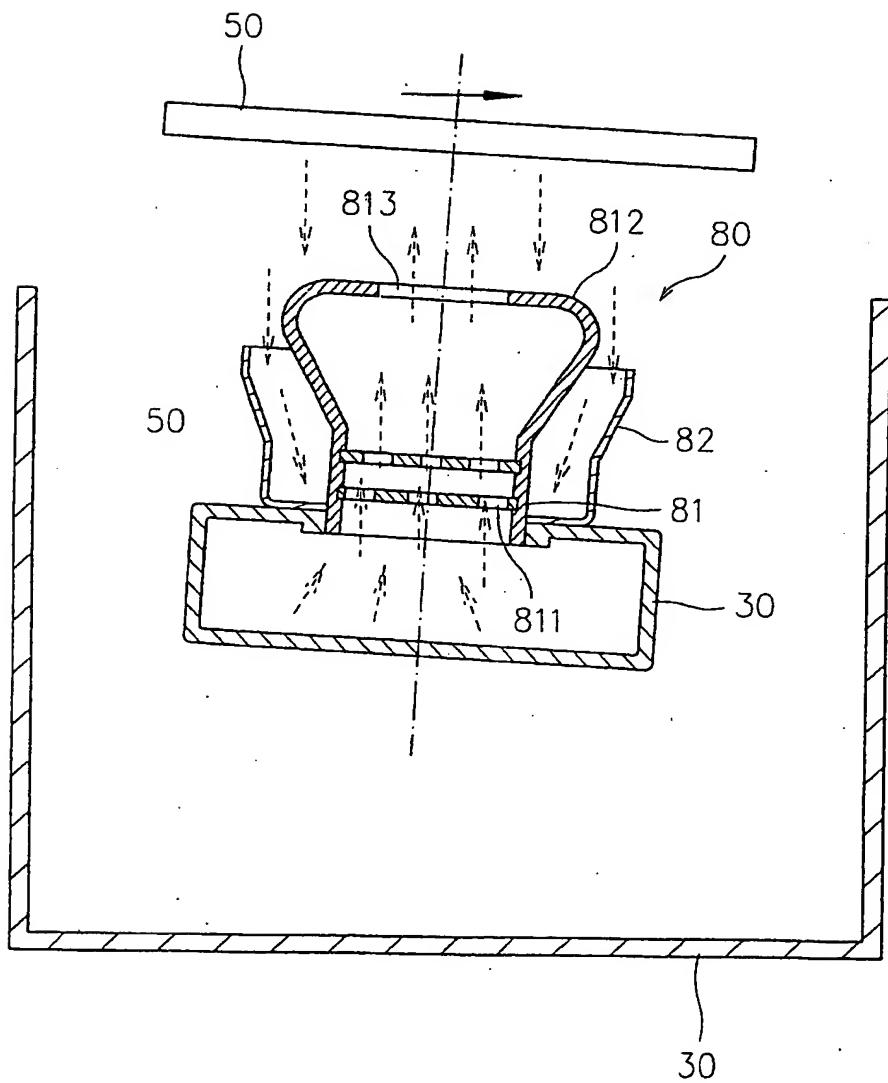


FIG. 7

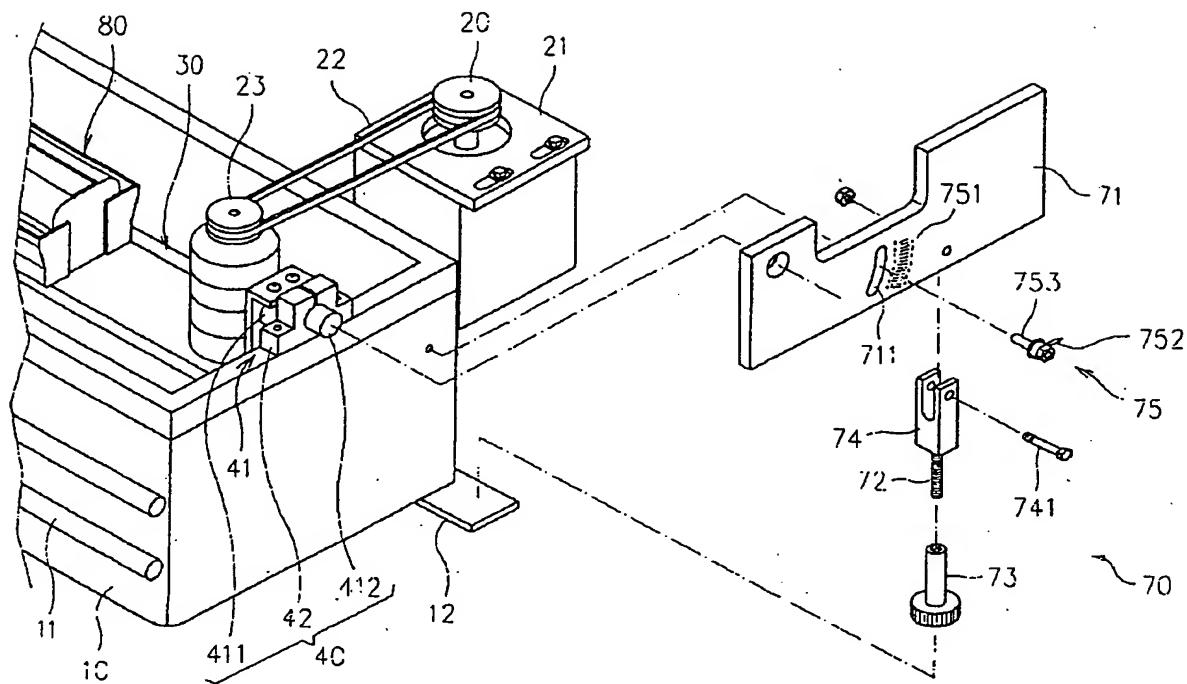


FIG. 8

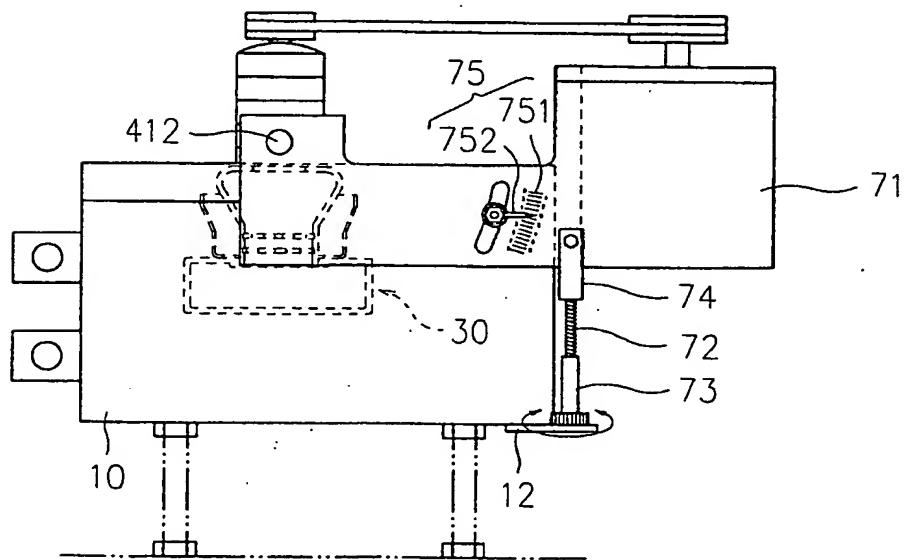
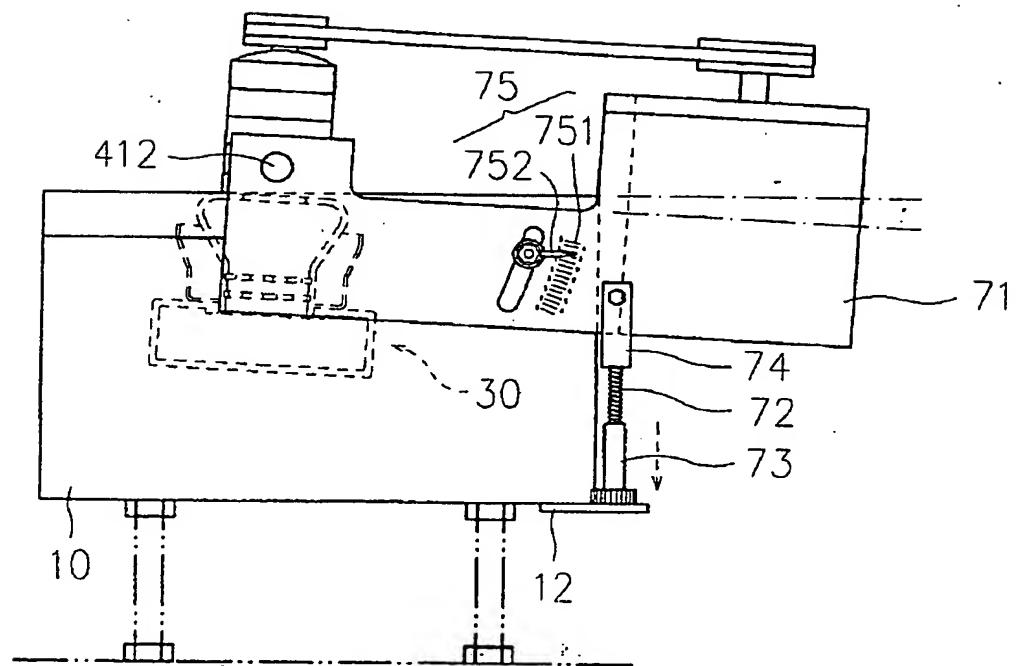


FIG. 9





中華民國專利公報 [19] [12]

[11]公告編號：483355

[44]中華民國 91年(2002) 04月11日

新型

全 8 頁

[51] Int.Cl⁰⁷ : B23K3/00

[54]名稱：焊錫爐之錫槽裝置改良結構追加（一）

[21]申請案號：089204512A01 [22]申請日期：中華民國 90年(2001) 08月31日

[72]創作人：

杜游城

基隆市中正區中正路七六〇巷二十八號

[71]申請人：

杜游城

基隆市中正區中正路七六〇巷二十八號

[74]代理人：鄭振田先生

1

2

[57]申請專利範圍：

1.一種「焊錫爐之錫槽裝置改良結構追加(一)」，其包括：

一馬達，係置於一固定座內，該馬達可藉由皮帶帶動轉軸下方之風葉扇；

一分流槽，其兩側邊延伸有固定部，於一側之圍壁上裝設一導流裝置，乃於中間適當位置處設有一孔洞，以容置轉軸下方之風葉扇，並將轉軸固定於分流槽上；

一支撐裝置，係由一支撐桿及支撐塊所構成，該支撐桿具有一固定端及一支撐部，該支撐塊上設有一孔洞，供穿置支撐桿之支撐部；

一錫槽，於槽壁兩端邊緣適當位置處設有支撐塊，另於錫槽外側設有加熱管；

其特徵在於：

該導流裝置係由一內層結構、一外層結構構成之雙層結構，該內層結

構之底部設有孔洞，該內層結構兩側邊之頂部具有朝向內層結構內部延伸彎折之彎折部，於彎折部間之該內層結構頂部具有一透空部，該外層結構係呈一頂部透空之容器狀，套設於前述內層結構外部；

前述該支撐裝置之支撐桿之支撐部與馬達固定座連設一微調裝置，藉該微調裝置可牽引使板體以支撐部之軸心為圓心轉動，調整分流槽之傾斜角度者。

2.如申請專利範圍第1項所述之一種「焊錫爐之錫槽裝置改良結構追加(一)」，其中，該外層結構具有一封閉端、一開放端，可經由該開放端外接管道，便於使該外層結構內所收集之氧化廢錫料流出者。

3.如申請專利範圍第1項所述之一種「焊錫爐之錫槽裝置改良結構追加(一)」，其中，該微調裝置主要係由

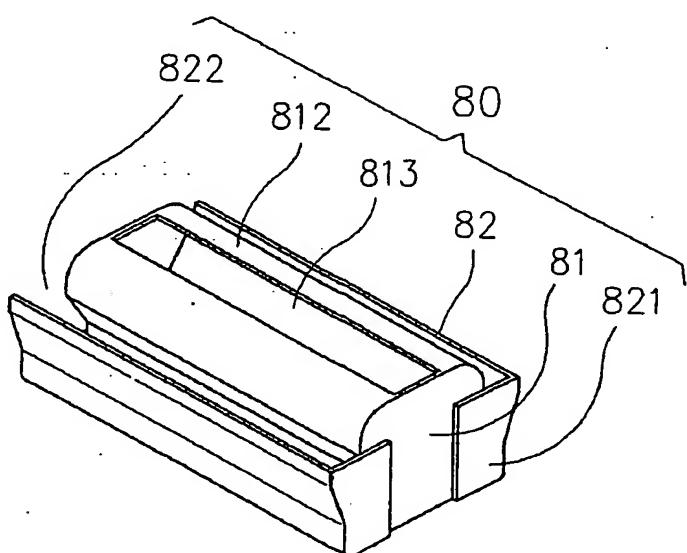
一板體、一螺桿、一調整螺栓構成，該板體之一側與前述支撐部固接，另一側與馬達固定座固接，前述螺桿之頂部活設於該板體底部之適當處，使螺桿之軸心方向朝向該板體下方，前述調整螺栓再螺合於螺桿下部，且該調整螺栓固設於錫槽之適當處者。

4. 如申請專利範圍第3項所述之一種「焊錫爐之錫槽裝置改良結構追加(一)」，其中，該螺桿之頂部設有一連接裝置，該連接裝置之頂部係藉由一軸體與板體活設，該連接裝置之底部與該螺桿固設者。
5. 如申請專利範圍第1項所述之一種「焊錫爐之錫槽裝置改良結構追加(一)」，其中，該板體之適當處設有一傾斜角度指示裝置，藉由該傾斜角度指示裝置便於調整並得知分流槽之傾斜角度者。
6. 如申請專利範圍第5項所述之一種「焊錫爐之錫槽裝置改良結構追加(一)」，其中，該傾斜角度指示裝置係由一刻度與指針構成，該刻度係

設置於前述該板體上之適當處，於刻度旁之該板體之適當處設有一透空槽，前述該指針係藉由一軸體通過前述透空槽固設於該錫槽上，且指針之軸體與前述該透空槽間具有一適當活動裕度者。

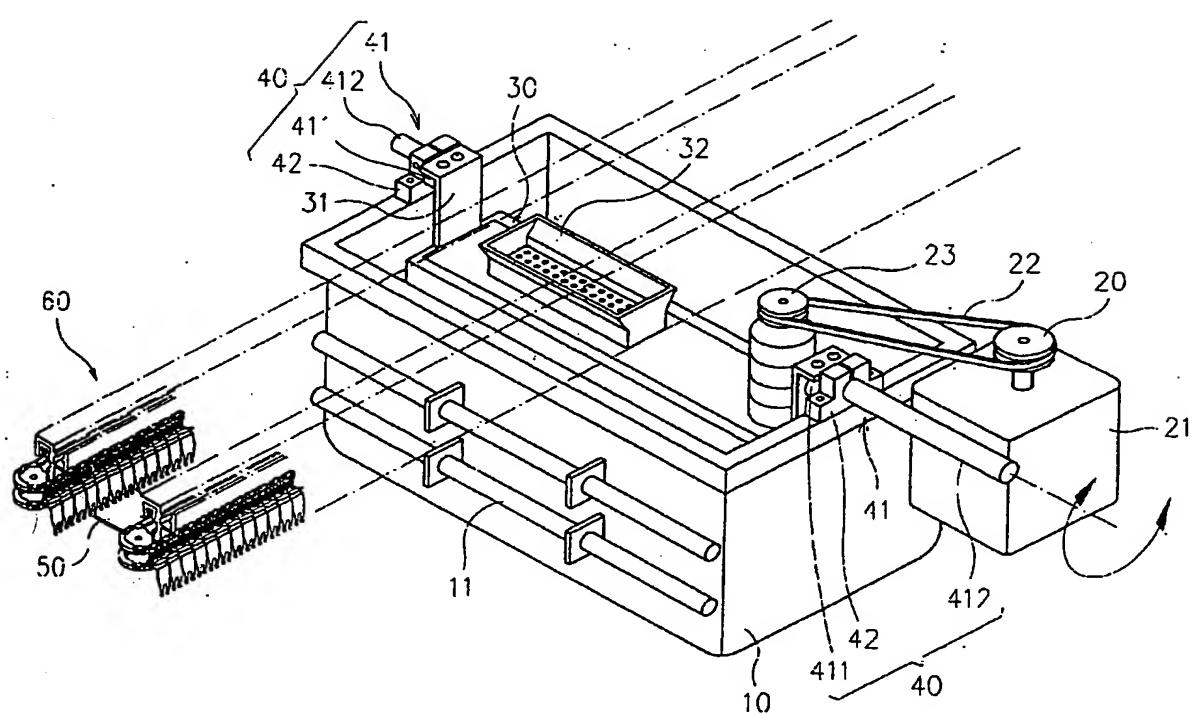
圖式簡單說明：

- 第一圖係原母案之組合立體圖。
- 第二圖係原母案之分解立體圖。
- 10. 第三圖係本本創作之組合立體圖。
- 第四圖係本創作之導流裝置之外觀立體圖。
- 15. 第五圖係本創作之導流裝置之另一角度之外觀立體圖。
- 第六圖係本創作於電路板焊錫作業時之實施例剖面示意圖。
- 第七圖係本創作之微調裝置之分解立體圖。
- 20. 第八圖係本創作設有微調裝置之一側之正視圖。
- 第九圖係本創作調整其微調裝置之示意圖。



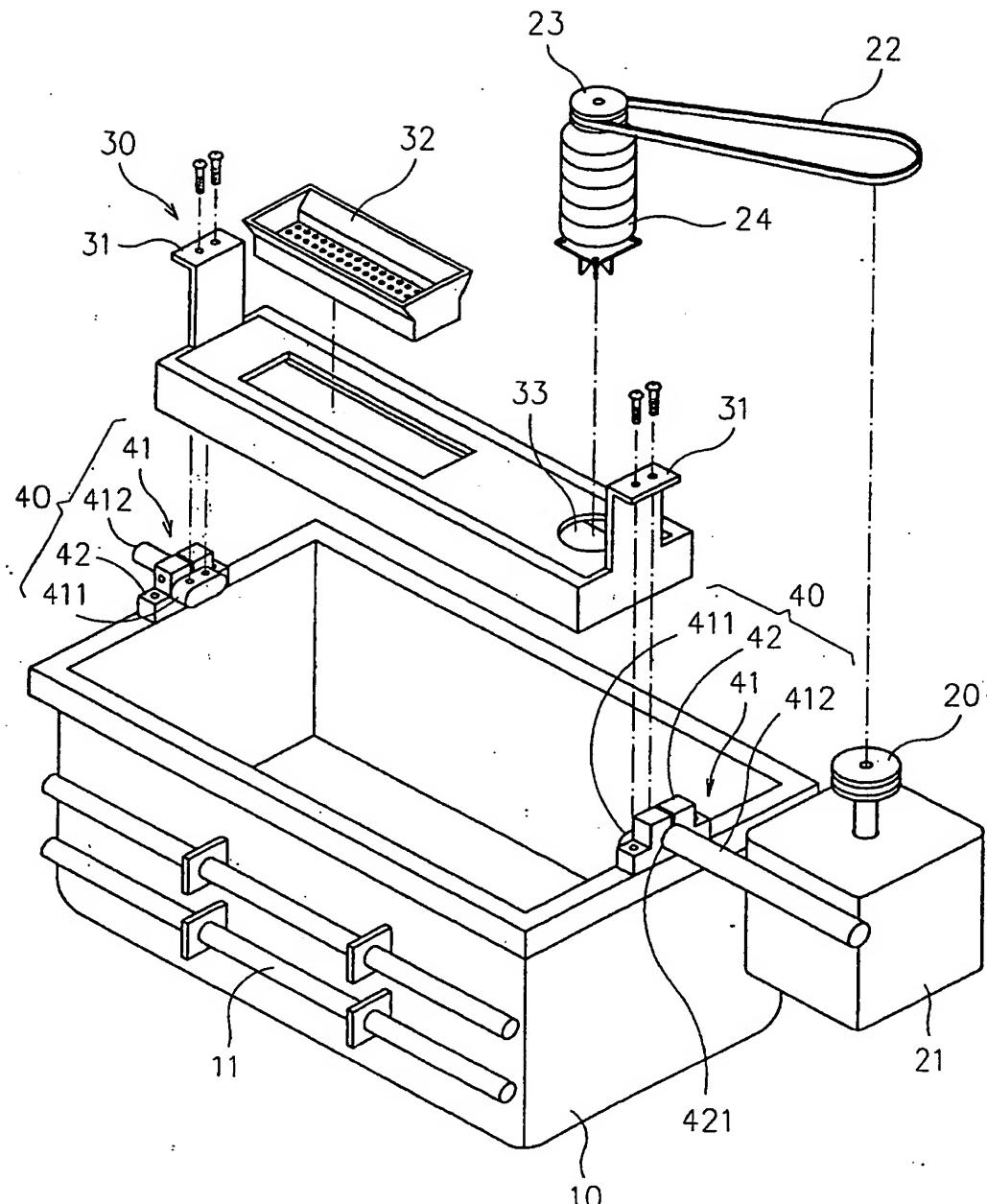
第四圖

(3)

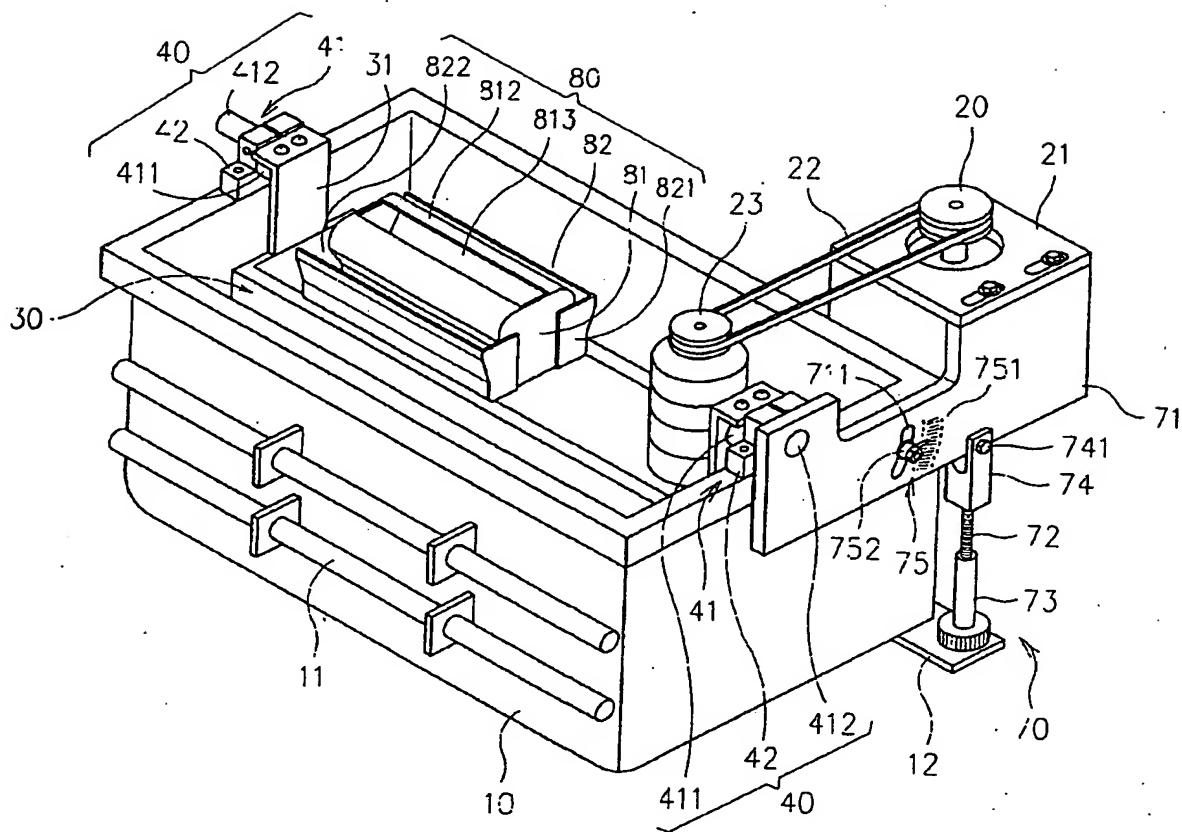


第一圖

(4)

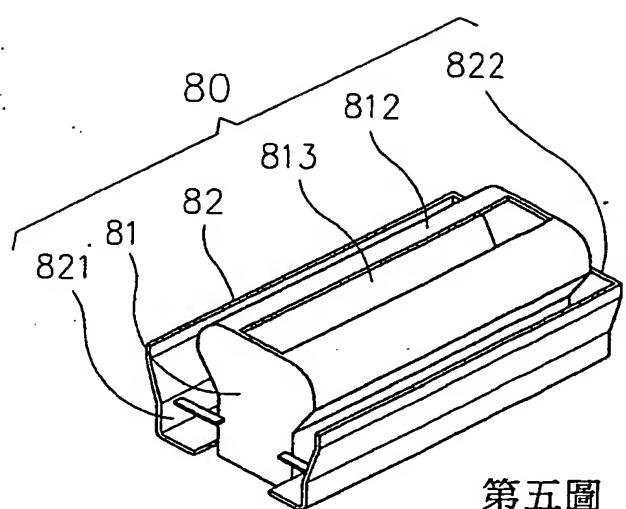


第二圖

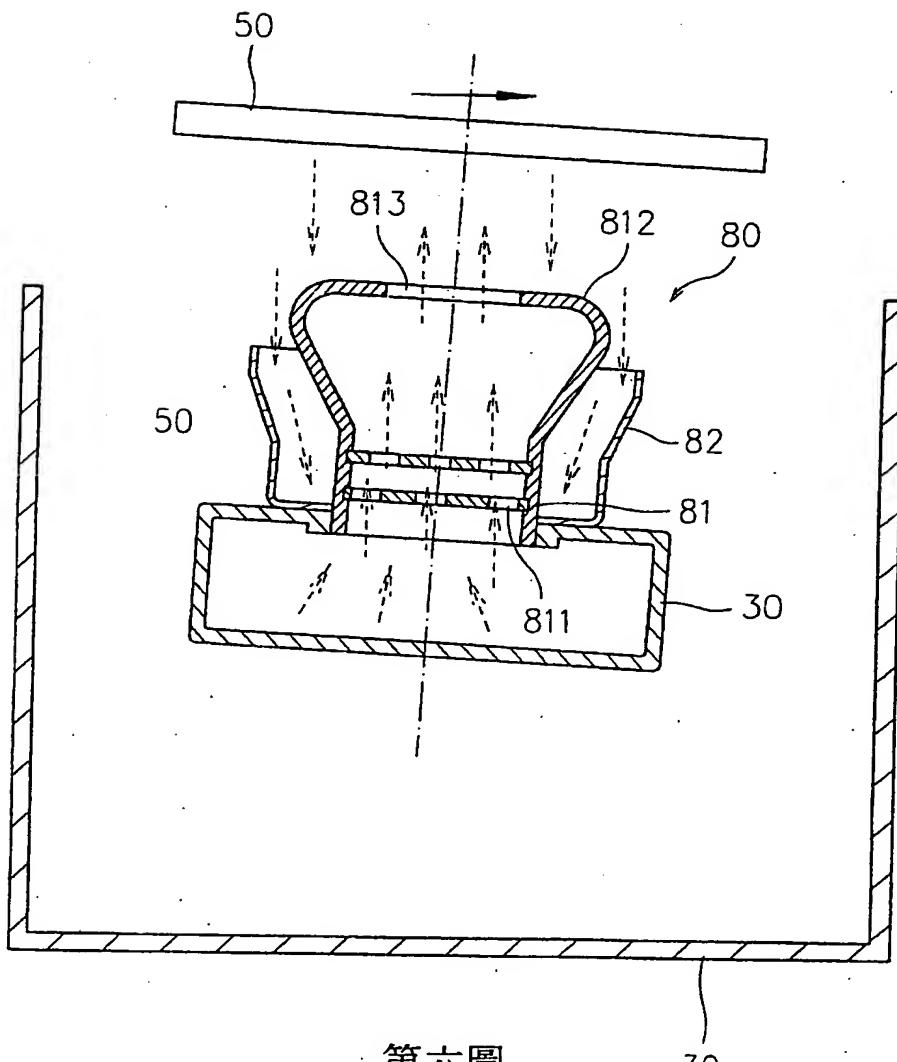


第三圖

(6)



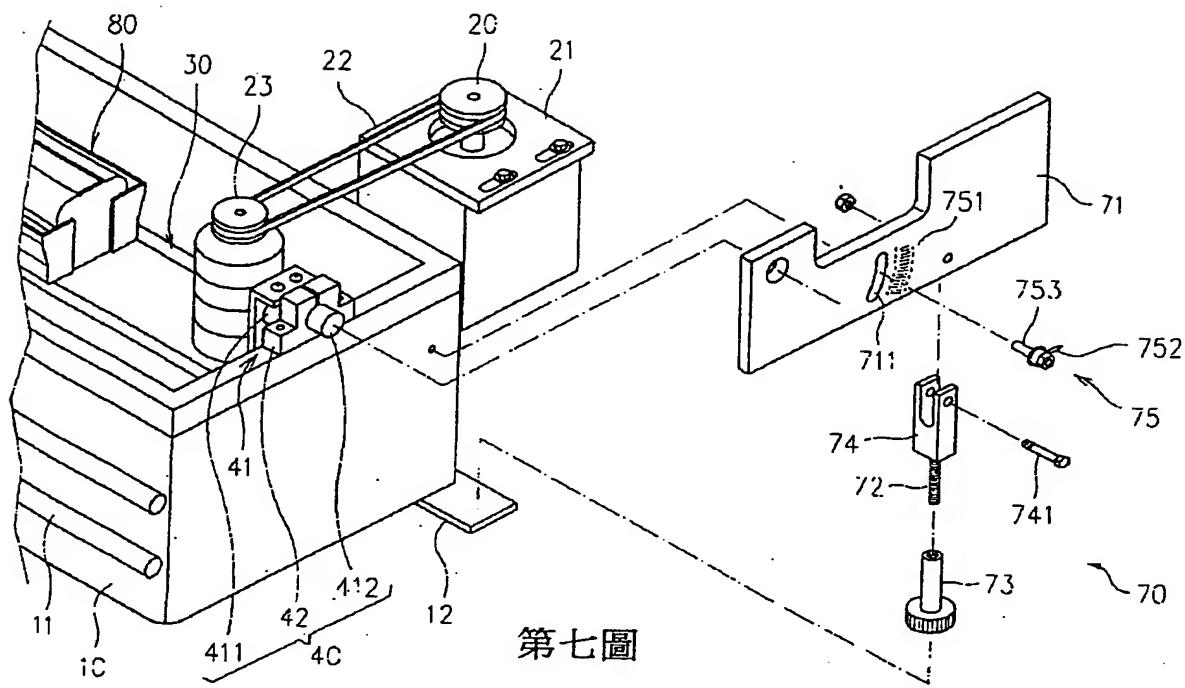
第五圖



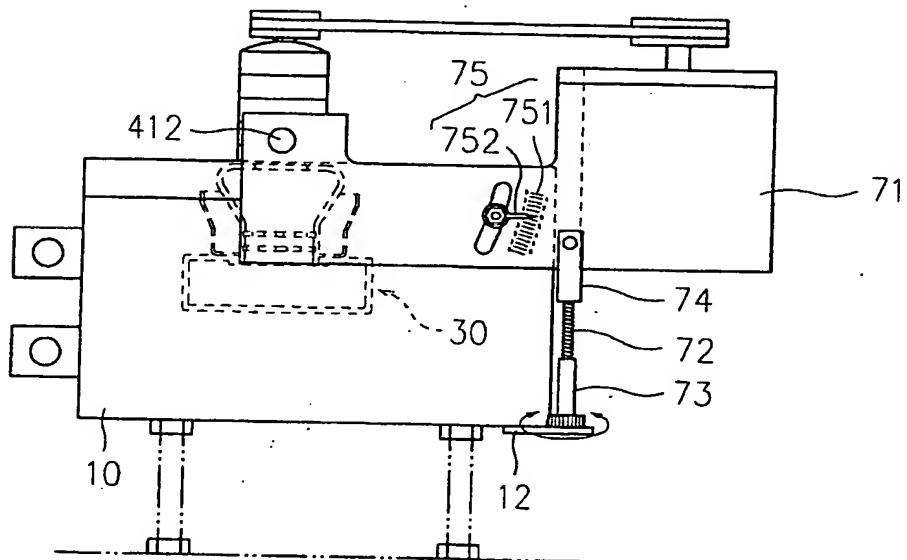
第六圖

30

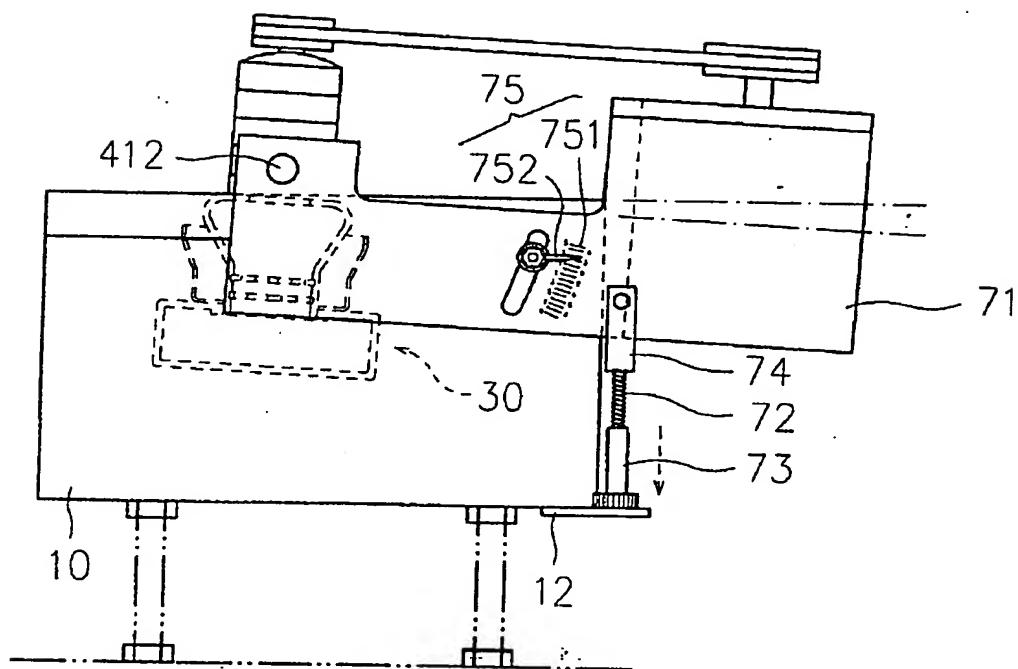
(7)



第七圖



第八圖



第九圖